

WHAT IS CLAIMED IS:

1. A fluid opacifying pigment mixture having a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at least about 15%, and a Stormer viscosity of about 50 to about 250 KU, which mixture comprises:
 - (a) about 600 to about 1500 lbs/100 gallons of at least one universal-grade titanium dioxide;
 - (b) about 0.2 to about 20 lbs/100 gallons of at least one hydrophobically-modified ethylene oxide-urethane polymer (HEUR) thickener selected from the group consisting of:
 - (i) a HEUR having a C₄-C₁₂ hydrophobe and a molecular weight of about 10,000 to about 200,000,
 - (ii) a HEUR having a C₆-C₃₀ hydrophobe and a molecular weight of about 10,000 to about 200,000, and
 - (iii) combinations thereof,
 - (c) about 1.5 to about 16 lbs/100 gallons of at least one dispersant selected from the group consisting of a maleic acid/diisobutylene copolymer, a butyl methacrylate/methacrylic acid copolymer, and an acrylic acid – hydroxypropyl acrylate copolymer, and
 - (d) water; wherein the mixture is stable with no mixing required.
2. A fluid opacifying pigment mixture having a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at least about 15%, and a Stormer viscosity of to about 50 to about 250 KU, which mixture comprises:
 - (a) about 600 to about 1500 lbs/100 gallons of at least one interior-grade titanium dioxide;
 - (b) about 0.3 to about 5 lbs/100 gallons of at least one hydrophobically modified, alkali-soluble emulsion (HASE) thickener having a C₆-C₂₂ hydrophobe and a molecular weight of about 10,000 to about 7,000,000;
 - (c) about 1.8 to about 23 lbs/100 gallons of at least one dispersant selected from the group consisting of maleic acid/diisobutylene copolymer, butylmethacrylate/methacrylic acid copolymer, acrylic acid – hydroxypropyl acrylate copolymer, and polyacrylic acid; and
 - (d) water; wherein the mixture is stable with no mixing required.

3. A fluid opacifying pigment mixture having a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at least about 15% and a Stormer viscosity of about 50 to about 250 KU, which mixture comprises about 600 to about 1500 lbs/100 gallons of:
 - (a) at least one interior-grade titanium dioxide;
 - (b) about 0.5 to about 3 lbs/100 gallons of at least one hydroxyalkyl cellulose thickener having a molecular weight of about 10,000 to about 10,000,000;
 - (c) about 1.8 to about 23 lbs/100 gallons of at least one polyacrylic acid dispersant; and
 - (d) water; wherein the mixture is stable with no mixing required.
4. A fluid opacifying pigment mixture having a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at least about 15%, and a Stormer viscosity of about 50 to about 250 KU, which comprises:
 - (a) about 600 to about 1500 lbs/100 gallons of at least one universal-grade titanium dioxide;
 - (b) about 2 to about 6 lbs/100 gallons of at least one hydrophobically-modified hydroxyalkyl cellulose thickener having a molecular weight of about 10,000 to about 10,000,000;
 - (c) about 1.8 to about 23 lbs/100 gallons of at least one polyacrylic acid dispersant; and
 - (d) water; wherein the mixture is stable with no mixing required.
5. A fluid opacifying pigment mixture having a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at least about 15% and a Stormer viscosity of about 50 to about 250 KU, which mixture comprises:
 - (a) about 600 to about 1500 lbs/100 gallons of at least one universal-grade titanium dioxide;
 - (b) about 0.2 to about 10 lbs/100 gallons of at least one hydrophobically-modified hydroxyalkyl cellulose thickener having a molecular weight of about 10,000 to about 10,000,000;
 - (c) about 2 to about 10 lbs/100 gallons of at least one hydrophobically-modified ethylene oxide-urethane polymer (HEUR) thickener having a C₄-C₃₀ hydrophobe and a molecular weight of about 10,000 to about 200,000;

(d) about 3.0 to about 22.5 lbs/100 gallons of at least one maleic acid/diisobutylene copolymer dispersant; and

(e) water; wherein the mixture is stable with no mixing required.

6. A fluid opacifying pigment mixture having a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at least about 15%, and a Stormer viscosity of about 50 to about 250 KU, which mixture comprises:

(a) about 600 to about 1500 lbs/100 gallons of at least one universal-grade titanium dioxide;

(b) about 0.2 to about 10 lbs/100 gallons of at least one hydrophobically-modified hydroxyalkyl cellulose thickener having a molecular weight of about 10,000 to about 10,000,000;

(c) about 2 to about 10 lbs/100 gallons of at least one hydrophobically-modified ethylene oxide-urethane polymer (HEUR) thickener having a C₄-C₃₀ hydrophobe and a molecular weight of about 10,000 to about 200,000, (d) about 0.5 to about 22.5 lbs/100 gallons of at least one acrylic acid – hydroxypropyl acrylate dispersant; and

(e) water; wherein the mixture is stable with no mixing required.

7. A fluid opacifying pigment mixture having a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at least about 15% and a Stormer viscosity of about 50 to about 250 KU, which mixture comprises:

(a) about 600 to about 1500 lbs/100 gallons of at least one universal-grade titanium dioxide;

(b) about 1 to about 10 lbs/100 gallons of at least one hydroxyalkyl cellulose thickener having a molecular weight of about 10,000 to about 10,000,000 or a hydrophobically-modified hydroxyalkyl cellulose thickener having a molecular weight of about 10,000 to about 10,000,000;

(c) about 0.5 to about 22.5 lbs/100 gallons of at least one acrylic acid – hydroxypropyl acrylate dispersant; and

(d) water; wherein the mixture is stable with occasional mixing required.

8. A fluid opacifying pigment mixture having a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at

least about 15%, and a Stormer viscosity of about 50 to about 250 KU, which mixture comprises:

- (a) about 600 to about 1500 lbs/100 gallons of at least one universal-grade titanium dioxide;
- (b) about 0.3 to about 5 lbs/100 gallons of at least one hydrophobically-modified, alkali-soluble or alkali-swellaable emulsion (HASE) thickener having a C₆-C₂₂ hydrophobe and molecular weight of about 10,000 to about 7,000,000;
- (c) about 1.2 to about 45 lbs/100 gallons of at least one polyacrylic acid dispersant; and
- (d) water; wherein the mixture is stable with occasional mixing required.

9. A fluid opacifying pigment mixture having a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at least about 15%, and a Stormer viscosity of about 50 to about 250 KU, which mixture comprises:
- (a) about 600 to about 1500 lbs/100 gallons of at least one universal-grade titanium dioxide;
 - (b) about 0.5 to about 10 lbs/100 gallons of at least one hydroxyalkyl cellulose thickener having a molecular weight of about 10,000 to about 10,000,000 or about 0.5 to about 10 lbs/100 gallons of a hydrophobically-modified hydroxyalkyl cellulose thickener having a molecular weight of about 10,000 to about 10,000,000;
 - (c) about 1.2 to about 18 lbs/100 gallons of at least one maleic acid/diisobutylene dispersant; and
 - (d) water; wherein the mixture is stable with constant mixing required.
10. A fluid opacifying pigment mixture having a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at least about 15%, and a Stormer viscosity of about 50 to about 250 KU, which mixture comprises:
- (a) about 600 to about 1500 lbs/100 gallons of at least one universal-grade titanium dioxide;
 - (b) about 0.1 to about 3 lbs/100 gallons of at least one hydrophobically-modified, alkali-soluble or alkali-swellaable emulsion (HASE) thickener having a C₆-C₂₂ hydrophobe and a molecular weight of about 10,000 to about 7,000,000;
 - (c) about 0.6 to about 22.5 lbs/100 gallons of at least one acrylic acid – hydroxypropyl acrylate dispersant; and

- (d) water; wherein the mixture is stable with constant mixing required.
11. A fluid opacifying pigment mixture having a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at least about 15%, and a Stormer viscosity of about 50 to about 250 KU, which mixture comprises:
- (a) about 600 to about 1500 lbs/100 gallons of at least one universal-grade titanium dioxide;
 - (b) about 0.1 to about 3 lbs/100 gallons of at least one hydrophobically-modified, alkali-soluble or alkali-swelling emulsion (HASE) thickener having a C₆-C₂₂ hydrophobe and a molecular weight of about 10,000 to about 7,000,000;
 - (c) about 0.6 to about 45 lbs/100 gallons of at least one maleic acid/diisobutylene copolymer dispersant; wherein the mixture is stable with constant mixing required.
12. A fluid opacifying pigment mixture, a titanium dioxide pigment volume concentration of about 40 to about 100%, a titanium dioxide volume solids content of at least about 15%, and a Stormer viscosity of about 50 to about 250 KU, which mixture comprises:
- (a) about 600 to about 1500 lbs/100 gallons of at least one interior-grade titanium dioxide;
 - (b) about 0.2 to about 20 lbs/100 gallons of at least one hydrophobically-modified ethylene oxide-urethane polymer (HEUR) thickener selected from the group consisting of, a HEUR having a C₄-C₁₂ hydrophobe and a molecular weight of about 10,000 to about 200,000, a HEUR having hydrophobe C₆-C₃₀ hydrophobe and a molecular weight of about 10,000 to about 200,000, and combinations thereof;
 - (c) about 1.2 to about 18 lbs/100 gallons of at least one maleic acid/diisobutylene dispersant; and
 - (d) water; wherein the mixture is stable with constant mixing required.
13. The mixture of Claims 1 to 12, which mixture further comprises one or more additives selected from the group consisting of a defoamer, a surfactant, a coalescent, a base, a biocide, a mildewcide, a co-dispersant, a polymeric binder, and a voided latex polymer.
14. The mixture of Claim 7, further comprising about 2 to about 12 lbs/100 gallons of at least one hydrophobically-modified ethylene oxide-urethane polymers (HEUR) thickener having a C₄-C₃₀ hydrophobe and a molecular weight of about 10,000 to about 200,000 or at least one clay thickener;

15. The mixture of claims 1-12, wherein the pigment volume concentration is about 50 to 100%.
16. The mixture of claims 1-12, wherein the pigment volume concentration is about 60 to about 100%.
17. The mixture of claims 1-12, wherein the pigment volume concentration is about 70 to about 100%.
18. The mixture of claims 1-12, wherein the pigment volume concentration is about 80 to about 100%.
19. The mixture of claims 1-12, wherein the pigment volume concentration is about 90 to about 100%.
20. The mixture of claims 7-12, wherein said mixing is carried out using an impeller, a recirculator, a shaker, a mill, a rotator, a bubbler, a sonicator, a pump or combinations thereof.

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